THE GENESEE FARMER.

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PUBLISHED BY LUTHER TUCKER.

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GENESEE FARMER.

SATURDAY, MAY 20, 1837.

Our Country—Agriculture—Silk.

The present unexampled depression of trade; the great derangement of our money matters; the high prices of most of the necessaries of life; and the utter prostration of thousands who thought themselves rapidly advancing to wealth, seem to require of all a careful examination of the causes which have led to these disastrous results, and an adoption of the best means of lightening the pressure, and forever preventing its renewal. So far as the inquiry involves financial or political considerations, the columns of the Farmer are not deemed a proper place for their discussion; but it appears to us that the great interests of the nation, which it has been the aim of this journal to advocate and enforce,—*the improvement and extension of our agriculture, and the more complete development of our ample resources,*—cannot be more forcibly presented to the American people than by the present position in which we find ourselves placed.

With a country confessedly the richest in the world; embracing all the varieties of soil and climate required for the production of all the necessaries, and most of the luxuries of life; and a population proverbially active and intelligent; we find ourselves purchasing bread of foreign nations, and involved in a debt beyond our present ability to pay, without the most ruinous sacrifices. Such a state of things ought not to exist; it is a shame to us to be importing wheat from abroad, when that article has, and should still, form an important item in our exports. The existence of such a fact would almost justify the charge, and the continuance of it will certainly subject us to the allegation, of being unable to appreciate the natural advantages bestowed on us by heaven, or if appreciated, not possessing the energy and forethought necessary to render them available.

Nearly one-third the population of the United States are engaged in the production of a single article—cotton. Their bread, their meat, their clothing, they buy; and as the times and the prices of cotton have been, the planters have found themselves getting rich with unwonted rapidity. But by this course, the south has placed themselves, and in a great measure all the commercial and manufacturing interests of the country, completely at the mercy of foreigners. *They* have touched the article of cotton, have reduced its price at their pleasure, and the prosperity of the nation seems at once crumbling to dust. There must be a change in these respects. We boast of our independence, and find ourselves slaves to foreign merchants and brokers; we pride ourselves on the inexhaustible fertility of our soils, and buy our bread of the impoverished regions of Europe; we talk of our advancement in wealth, of our manufactures and our commerce; but as if on purpose to disturb the pleasing illusions of our day dreams, half a dozen men, the directors of a single moonied institution in England, readily convince us that with all our boasted prosperity, we can scarcely pay our debts.

The remedy which common sense points out for this deplorable state of things, is not to rid ourselves of the present difficulty by new promises to pay hereafter; but to go to work like honest, independent Americans, and by the improvement of our agriculture, by its extension, and by the introduction of new sources of prosperity, depending on our *industry* and our *soil*, to place ourselves above the fluctuations of trade, or the liability of being dunned by foreigners. In the first place we must raise our own bread. Every section of the Union can do this; and the south as well as the north must engage in the business with spirit. If the south raised but half the cotton they now do, and turned the surplus labor to the production of bread, they would probably realize as much profit as they now do when forcing their millions of cotton upon the glutted markets of Europe. So far as the farmers of the north are concerned, they have personally nothing to complain of; but they must be sordidly blind to their true interests to desire wealth, or success in agriculture, at the expense of any section of our country, or body of our citizens. They feel that the failure of every house in New York or New Orleans is a blow aimed at public confidence, and that as members of the same great family, what is felt by one must eventually more or less be felt by all.

An anxiety to be rich without labor has become our besetting sin; and those who of all others ought to know and feel differently, farmers and farmers' sons, have been among the most active in bringing about this state of things. The professions have long been crowded to overflowing, yet our young men, as if the cultivation of the soil implied dishonor, or to handle the axe or the plough was a disgrace, still cling to the hope of a professional living, and as a natural consequence we have among us too many idle drones, too many who are willing to get their living by hook or by crook, rather than by honest, persevering and honorable industry. This unhealthy state of feeling must be corrected; and the mind of the young impressed with the truths, that of all aristocracies a moneyed one is the most oppressive, but an aristocracy of idleness is the meanest and most detestable.

We must extend our agriculture until it shall furnish abundance of the necessaries of life, and with the blessing of Providence place beyond the possibility of want all classes that are willing to be industrious and live within their means. We must depend on agriculture in a great measure for our remittances abroad, and this surplus should be made as large and available as possible. No matter what may be the forms or modes adopted to procure it, the origin of wealth is the earth; and the more extensive and perfect the culture of the soil, the more sure and firmly based is the individual or national prosperity.

In addition to this, we must develope new sources of productive industry, and render ourselves to the utmost independent of the favor or the caprice of foreign nations. No man in his senses will at this time of the world advocate the Chinese or terrapin system; yet there can be little danger of a want of exchangeable articles sufficient to give the commercial interests full activity, even when we shall produce for ourselves all the important necessaries and luxuries of life. Few farmers have an idea of the immense drain constantly made on the capital and prosperity of the country, in paying foreign nations for commodities which with a little skill and exertion, we might abundantly produce among ourselves. We shall not be accused of exaggeration when we say that fifty millions of dollars are annually required to pay France and Great Britain for things which we can produce better than they, were the enterprise and industry of our people but sufficiently directed to one or two points, and that too without interfering in the least, or but very little, with any of our present sources of profit or industry.

We have room here to refer to the single item of *silk;* though we might with equal propriety embrace ordinary woolen goods, sugar, and iron, as things we should furnish not only for ourselves, but for exportation. The letter of Mr. Judson, Member of Congress from Connecticut, to Mr. Adams, as chairman of the committee on manufactures, is a valuable document, not only as exhibiting the importance of the silk business as a branch of national industry, but also showing the progress already made in this new, and as we believe, most profitable investment of labor and capital in this country. In one respect the silk business is different from most others; it requires little or no money for its introduction into families, and experience in France and Italy conclusively proves that it is here carried on with the least care and the greatest profit. Unlike other farming pursuits, the silk manufacture is best managed by females and children, and the labor of only a few weeks is required to convert the mulberry leaves into an article fit for market, and commanding a price of ample remuneration.

The importance of the silk manufacture to us may be inferred from the fact, ascertained by a reference to the collector's returns, that the importations of *manufactured silks* during the year ending on the 30th of September, 1836, amounted to *seventeen millions, four hundred and ninety-seven thousand, nine hundred dollars.* This sum, saved to us, as it might be by home manufacture, would have in a great measure prevented that rude commercial shock which is crushing the prosperity of the principal cities to the dust. Silk goods we must have; their cheapness, durability, beauty, all conspire to render them one of the necessaries now, as they formerly were one of the luxuries of life; and the demand for them is rapidly increasing. Would it not be good policy to retain a part or the whole of this sum at home? Experience has shown that the climate of the New England and middle states, is excellent for the growth of the mulberry and the habits of the worms, as well as distinguished for the fine quality of the silk and size of the cocoons. Two years since, northern Italy, with a comparatively trifling population, sold silk, raw and manufactured, to the amount of five millions of dollars; and New England alone in five years from this time might produce as much.

Not one of the least promising indications that our country is destined to become a silk growing one to a great extent, is the success which has so far attended the efforts of those who have engaged in the business, and indeed the whole process is so simple and easily conducted that where mulberry leaves and the eggs of the worm can be procured, it is hardly possible to fail. The principle of association is beginning to be brought to bear on this new source of national wealth, and companies for the production and manufacture of silk have been formed in most of the states; and though scarcely a bushel of cocoons could have been procured in the country previous to the last year, some of these establishments have already turned out from ten to forty thousand dollars worth of goods from our native silk. In Massachusetts there are five or six companies with an aggregate capital of some half a million of dollars—vast plantations of the mulberry, both Italian and Chinese, are growing—and the state with commendable liberality has granted a present bounty of two dollars per pound on all silks grown, reeled and throwed; or in other words made ready for the manufacturer; a sum considered by competent judges nearly sufficient to defray every expense in the whole process of growing and preparing. We hail with pleasure the rise of this new item of national industry and profit, and shall watch its progress with interest; viewing it as we do, not as merely a question of dollars and cents, though even here it is important, but as a new link in the chain of cause and effect, which will bring into action new energies, promote industrious habits, and render us eventually less dependant on foreign nations, and of course less at the mercy of their enmities or their friendships.

South American Salt Works.

In a late No. of the American Journal of Science, Dr. Gibbon has given an interesting account of a visit to the salt mines and works of Zipaguera, about thirty miles from the capital of New Grenada, Santa Fe Bogota. Zipaguera is an old Indian village, of some 7 or 8,000 inhabitants, situated on the river of Bogota, and at the

foot of the same range of mountains that overhangs the city. Huge masses of rock salt are exposed in the hills above the town, but in general it requires purification, before using. Between the layers of salt, there is a stiff unctious clay, filled with pyrites in beautiful chrystals some resembling the diamond, and some yellow like gold.

The salt intended for purification is dissolved in large vats, filled with salt water from the salt springs which rise near the place, and which is thus brought quickly to the point of saturation. Dr. Gibbon was assured "that water at any degree of temperature would not take up more than one fourth of its weight of salt." When the water is saturated it is evaporated in large pans or *calderos*, till the grain is fine and perfect. It is then transferred to earthen pots, of which, from 150 to 200, and holding from seven to fifteen gallons each, are placed in a furnace of a peculiar construction, where it is exposed to a great heat for a considerable time in order to consolidate the salt, and fit it for transportation. The salt in grain is put into the pots in small quantities, and wet with the saturated water, and the process of adding and wetting is repeated at intervals until the pots are filled, and the salt contained in them by this process of replenishing and heating, is rendered almost as solid as marble. When completed, the pots are taken from the furnace, broken off to get at the salt, and the white and nearly insoluble masses, slung across the backs of mules, are marched off to their destinations, a distance not unfrequently of more than a thousand miles.

The question has been sometimes asked, why our neighbors of the Spanish American republics are continually involved in revolutions, and remain in such an unsettled state. Dr. Gibbon without intending it, has furnished a satisfactory answer—the ignorance of the many;—and illustrated the position by facts which show that in all that concerns the principles of economy, mechanical industry, and government, the inhabitants of these provinces are at least a century behind their time. In his *gallop* from Bogota to Zipoguera he found the inhabitants repairing the paths, roads they cannot be called, and their operations were performed in this primitive manner—pathmasters of New York, listen. "A pair of oxen were fastened by ropes to one corner of a large hide; this being drawn to the side of a hill was filled over with earth and stones; the corners of the hide were then tied together, and the rubbish was dragged upon the ground in this strange vehicle to the spot where it was needed."

Another instance of their disregard of Adam Smith, and Ricardo. "Some years ago the price of the rough natural rock salt, in the state in which it was dug from the mountain was suddenly reduced, the expense of digging being trifling compared with the cost of calcination, although the price of both had been the same. As one portion of the people gave it the preference, it was presumed a reduction of price would extend its consumption in other districts; but this was a mistake. The people who had formerly purchased this kind in preference to the calcined, could not be made to understand the sudden decrease in price; they were induced to believe that the salt as they said was 'rotten,' or that there was some cause not apparent to them; and the company found it better to keep the price at the former rate, as then there was no diminution in the consumption.

The following extract will prove that motives, to produce the effect wished, must always be adapted to the condition and information of those upon whom they are designed to operate. "Upon one occasion, as the company wished to enlarge their operations, there was a great demand for the earthenware pots in which the salt is calcined, and these are made altogether by the Indians. The gentleman who had charge of the works, in order to secure a supply as he thought, offered double the usual price for these necessary articles; still there was a great deficiency. In this dilemma he applied to the Catholic priest for advice, and to know what plan he should pursue to obtain the required number of pots for the work. The padre, having heard the fact of an increased price for the pots, shook his head, and observed, that since the people received so much more money than formerly for their labors, they occupied their time in spending it, instead of making more pots. He advised that the price which had been raised from eighteen cents to thirty-seven cents, should be lowered at once three-fourths, or to *nine* cents, one-half of the original price. The advice was followed, and the stores were soon filled with a superabundance of earthenware."

Innovation is not always improvement; and South America is not the only country, or making salt the only business, in which a fear of change, and a blind adherence to ancient customs and established usages, has exercised a most pernicious influence. Men must be taught to think, and furnished with the materials for thinking correctly; the good or bad use of their reasoning powers must depend on themselves. The farmer who pursues a course of farming with no *better* reason, than because some one else has done so before him; can have no great claim to the intelligence which should be the boast of freemen, or good reason to expect that in his case, labor will be crowned with success.

From the New-Hampshire Patriot.

Extract from an Address read before the Merrimac County Agricultural Society, at their annual Cattle Show and Fair, holden at Concord, October, 1836, by Cyrus Barton.

Indian Corn—Ridging.

There is a mode of culture in practice in some parts of the State, which, in my opinion, is far preferable to that generally practised in this country. Preferable, because more than one half of the labor of ploughing and hoeing is saved, and at the same time a better crop is obtained. The mode is this: When a piece of mowing or pasture land is to be broken up in the spring for corn, the first thing is to spread the manure evenly over the whole surface. The ground is next thrown into *ridges*, by means of a plough with double mould-boards and shares—so that a furrow is turned up on each side of the plough as it passes along. Instead of going round or "marking off a land," as it is termed, the plough returns on the same side, within 20 or 24 inches of the first furrow. You then have a *ridge*—the edges of the two furrows coming nearly in contact, the grass is covered up, and all the manure which was spread over the space occupied, is thrown within the ridge. A man follows with his hoe to mend up the turf where it breaks and falls back, and to fill up the interstices between the edges of the turf with the soil from the furrow.

As the ground only requires to be ploughed to the depth of about four or five inches, two yoke of oxen will easily plough two acres and a half a day, and which, where the ground is tolerably smooth and free from stones, the man who follows will dress and render fit for planting in the same time—or, as is frequently practised, the corn is dropped and planted at the same time the ridges are dressed; and which is no doubt the better way.

Here then is a vast saving of labor; for I believe that one acre, by the present mode, is a good day's work; and, on the intervale lands in this town, the services of three yoke of cattle are required. But this is not all—for the ground has then to be harrowed, cross ploughed, and furrowed out for planting. So that the difference in labor, of preparing grass land for a corn crop, is as three to one in favor of ridging.

But this is not the only advantage. The ground being ploughed at the very time of planting, after the grass has become green, the decomposition of the turf and manure, thrown together within a ridge, causes fermentation to take place, the genial warmth of which causes the corn rapidly to spring up, and come forward with a vigorous and healthy growth—and with the whole of the manure confined within range of its roots, subject neither to evaporation or to be washed away by rains, the corn usually comes to maturity some eight or ten days earlier than when treated in a different manner.

The mode of ridging has long been practised in Sullivan county. More than twenty years ago, before I left the farm for the more arduous and severe labors of the workshop, I assisted in dressing these ridges. The improved plough was at that time unknown, and the ridging were then made by passing the common plough through both ways in the same furrow. It is the only mode practised in some of the towns in that county now, whether the surface be rough or smooth, or the ground wet or dry, when a crop of corn is to be taken from grass land; and I am happy to say that the experiment has been tried here during the present season with the most satisfactory results.

At a suggestion of Paul Jacobs, Esq. who last year represented the town of Croyden in the Legislature, and who is one of the most extensive and best farmers in Sullivan county, Mr. William Low of this town was induced to send for one of the improved ploughs for ridging; and with which he ridged several acres on the intervale, which he planted with corn, and from which he has realized a tolerable crop, better than most of his neighbors—though not so good as the average of a good year. Mr. Robert Eastman of this town, prepared a few acres of his ground in the same manner, and with a like result. This plough may also be used to great advantage in the cultivation of potatoes, two acres and a half of which may be ploughed and planted in a day, with the assistance of two persons to drop the seed as the ground is ploughed, and which is covered by the ploughing and dressing the ridges.

After a crop has been taken from ground prepared in this manner, the plough is run through the ridges lengthwise, either in fall or spring and the soil is prepared for the succeeding crop.

If, then, as has been fully demonstrated, a saving of one half if not two thirds of the labor of breaking up grass land and preparing it for corn crop, can be realized by this mode of culture, and at the same time a better crop produced, it is certainly worthy the attention of the farmers of this county, who, I am satisfied, will give to the subject all the considerations which its importance demands.

DAIRY.

Ebenezer King, the gentleman who received the highest Premium for his June butter, states "that he presents thirty nine pounds and three quarters made in June; also fourteen pounds made two weeks since; and seven pounds made during the last week (dated Sept. 28th,) the produce of one cow. The cow has given at a milking twenty-six pounds, her feed has been principally ordinary pasture; occasionally she has had three pints of corn *meal* per day. Her milk has set twenty-four hours, when the cream has been separated; has been churned once a week; the butter milk pressed out; and the butter kept in strong pickle."

We subjoin to this account that of Daniel P. King, Esq., on the same subject, a successful competitor, and in all respects, one of the best farmers in the country.

"The stone jar marked 1, contains about thirty pounds of butter, made in the last week of June from the produce of six cows; they had common pasture feed only; the milk stood in tin pans in a cool cellar floor; in warm weather fine salt is stirred in the cream to prevent its souring. When the butter is taken from the churn, the butter milk is pressed out, it is partially salted and remains in the cellar till the next day, when more salt is added; and it is again worked over; the quantity of salt used is about one oz. to the pound. The butter in the jar has been covered with a pickle, made of rock salt, boiled, and carefully skimmed."

The produce of four cows, as given by Jacob Osgood, of Andover, is thus stated.

New Milk Cheese from the 9th of July to the 10th of September,	435 lbs.
Butter from 1st of June, to the 9th of July, and 17 days in September,	145 "
Amount of 6 meal cheese made during the time of making butter,	294 "

The cow of Daniel Putnam, which received the first Premium as a milch cow, of native stock, from the amount of her produce, certainly deserved a premium.

"This cow calved May 21. The calf was sold June 20th for $7,62½. During the thirty days that the calf sucked, there were made from her milk 17 lbs. butter. From June 20th to Sept. 26th (13 weeks she gave 3370 lbs. of milk, making a fraction more than 34 lbs, and 6 oz. per day. The greatest quantity on any one day was 45 lbs. or 17 quarts and 1 pint—for the weight of a quart of her milk is 2 lbs. 9 oz.

The greatest quantity in one week was 288 lbs. The quantity of butter made in the same fourteen weeks was 139 lbs. The greatest amount in one week was 12 lbs. 2 oz. The cow has had good keeping. In addition to the pasture she has been frequently fed with fresh mown grass and corn stalks. She had about four quarts of cob meal (corn ground on the cob) per day, through the summer."

From the New-York Farmer.

Domestic Economy.

Hang, or Dried Beef.—Take eight ounces of common salt, two ounces of salt-petre, made into brine. This quantity to be applied to ten lbs. of Beef. It should lay in the brine four weeks; and then be hung up in the kitchen or some warm apartment to become dry. In order to preserve it from insects in summer, it should be tied up in a linen cloth.

The above receipt was given me by an excellent farmer and manager in Massachusetts; and the beef *cured by it* was of the finest description.

H. C.

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Salt on Corned Beef.—One peck of coarse salt, four ounces of salt-petre, one and a half pound of coarse brown sugar. Add to the above ingredients four gallons of spring water; boil and skim it until it is quite clear; when cold it is fit for use. The meat, either beef or pork, should be salted a few hours before it is put in the pickle. Hams and Tongues are very fine cured with the same pickle.

The above receipt is called Admiral Pococke's pickle, and is much approved and generally used in the British Navy. I have successfully tested its value. H. C.

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Household Soap.—Put fourteen lbs. of Potashes to twenty lbs. of good grease for one barrel. Put the potashes into two pails of water over night; put the grease into a kettle and pour the potashes over it; let it boil moderately, filling it up with cold water until it thickens; then pour it into the barrel, and fill it up, (a pail full at a time,) stirring it about until the barrel is full. H. C.

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Cooking Potatoes.—This is no inconsiderable art; and I have some suspicion that Cobbett's ignorance of the best way of doing this, may have been one reason of his antipathy to the use of this esculent. The direction given by one writer is, never to put your potatoes into cold but boiling water; and keep it boiling until the pototoes are done or sufficiently boiled; then pour off the water as soon as possible; if a little salt be thrown into the water when boiling, the better. We will add a better mode than this, which has been so thoro'ly and successfully tested, that we believe it cannot fail to be approved: Select the potatoes you design for dinner the day previous; pare them and throw them into cold water and let them stand three or four hours; then, at a proper time before dinner, put them into boiling water; and when they have sufficiently boiled, turn off all the water, leave off the cover and hang them over the fire to dry.—When the steam has passed off they will then be in the best possible condition for eating. By this mode, potatoes even of a watery and inferior quality, become mealy and good. H. C.

Cellars.

Have your cellars cleaned, taking care to remove all vegetable offal of every description: when thus cleansed, purify the walls by white washing, and the floor by sprinkling lime over it. In making your whitewash, shake the lime in your cellar, so that it may receive the purifying effect of the gases which fly off.—*Ib.*

Virginia is arousing from her long lethargy, and making some exertions for improving her immense local advantages. The whole amount of appropriations, made by the last Legislature for Internal Improvements, was not less than 4 1-2 millions.

The climate of Virginia, and the condition of that state, encourage the belief that the silk culture will thrive rapidly there. It is mentioned in the Richmond Enquirer that the former United States Arsenal above Richmond, which has been of late going to ruin, will probably be converted into a silk laboratory—and that 60 or 80,000 mulberry trees are expected to be planted about its grounds. In the neighborhood of Richmond, much attention begins to be devoted to the cultivation of the mulberry; particularly the broad leafed Chinese mulberry; which is now easily propagated by slips. Among others, Mr. John Carter, the skilful and successful cultivator of the Vine, has planted out this spring about 40,000 slips of this excellent species of mulberry.

Moses Heartwell of Yates county, made this season, from only 122 trees, seven hundred pounds of Maple Sugar—"finer than the best St. Croix," says the Penn Yan Democrat.

Early Canada Seed Corn.

A VALUABLE kind for Farmers in cold seasons, for sale at the Rochester Seed Store.

my 20 REYNOLDS & BATEMAN.

Still More Seeds!!

WE have just received large additional supplies of genuine Orange Carrot, Mangel Wurtzel, Ruta Baga, and English Turuep seeds, of the best quality.

Also, a good supply of Cucumber, Melon, Squash, and Pumpkin seeds.

The unprecedented demand for seeds this season, had exhausted our stock of some kinds. We can now supply orders at very low prices.

REYNOLDS & BATEMAN,
Rochester Seed Store. Arcade Buildings.

May 20.

Valuable Works on Gardening.

The Young Gardener's Assistant—containing practical directions for the cultivation of Vegetables, Fruits and Flowers. By T. Bridgeman, seedman and florist, New York—seventh edition, improved. Price $1.

The Florist's Guide—containing practical instructions for the cultivation of Flowers. By the same author. Price 37 1-2 cents.

The Kitchen Gardener's Instructer—containing ample directions for the cultivation of culinary vegetables, herbs, &c. By the same author. Price 37 1-2 cents.

For sale by REYNOLDS & BATEMAN,
May 20. Rochester Seed Store.

Seed Corn Wanted.

A HIGH price will be paid for good Seed Corn delivered immediately at the Rochester Seed Store.

Also a few bushels of Sweet Corn.

may13-fr1t REYNOLDS & BATEHAM.

2,000,000 Silk Worm Eggs,

JUST received at the Rochester Seed Store. Price 12a cents per 1000, or 10,000 for $1.

may13-fr2w. REYNOLDS & BATEHAM.

Mulberry and Locust Seed.

A NEW supply of White Italian Mulbery and Yellow Locust Seed, just received by

REYNOLDS & BATEHAM,
my6 *Rochester Seed Store, Arcade Buildings.*

3.125 LBS. Ruta Baga, White Flat, Norfolk, Long Tankard, Yellow Bullock, and other Turneps, Mangel Wurtzel, French Sugar Beet, and Orange Carrot, with a great variety of *English Imported Garden Seeds*—"cheap as dirt." at the Rochester Seed Store. *Arcade Buildings.* apr29 REYNOLDS & BATEHAM.

2.000 LBS. Ruta Baga, English Turneps, and Mangel Wurtzel seed, just received from England, and for sale at reduced prices, at the English Seed Store, 62 Buffalo st. KEDIE & HOUGHTON.

april 29

Flower Seeds.

A SPLENDID assortment of annual, biennial, and perrennial Flower Seeds of the growth of 1836, for rate at the Rochester Seed Store, in boxes of 20 varieties for $1, 50 varieties for $2, 100 varieties for $4, or singly at 6 cents per paper. Catalogues may be had at the Store.

april 29 REYNOLDS & BATEHAM.

Attention Farmers and Gardeners,

TO the prices of seeds now selling at the new English Store, opposite the Court-house.

Early York and Drumhead Cabbage,	1s. per ounce.
New Early Nonpareil,	3s. "
All others,	1s. 6d. "
Early Horn Carrot and the Large Field Carrot,	5s. per pound.
Field Beet or Mangel Wurtzel,	3s. 6d. "
Radishes, of sorts, from	4s.to 5s. "
Ruta Baga,	5s. "
All other Turnip Seeds from	4s.to 5s. "

The subscribers offer their stock of the above Seeds at the prices stated, with all others of their importation, equally low, they being determined to sell at such prices as shall induce growers to cultivate the Root Crops extensively, the high price of the seeds of which have in this market been hitherto considered an objection, which complaint can no longer exist, and they solicit the patronage of the public. Proof specimens may now be seen growing at their Store.

KEDIE & HOUGHTON,
apr 22-tf 62 Buffalo-st. opposite the Court-House.

Rochester Seed Store—*Extra.*

OWING to their excellent facilities for procuring seed of American growth, as well as importing such as are found to mature better in other climates, the proprietors of this establishment are enabled to offer their present stock at very reduced prices, particularly *English* seeds.

Their present assortment of the growth of 1836 is very extensive, and was raised in the most careful manner by respectable seed growers in this country, or imported from the best foreign sources.

Encouraged by the liberal and increasing patronage they have hitherto received, they are determined to sell at as low prices as seeds *of equally good quality* can be purchased at any reputable seed store in the United States.

REYNOLDS & BATEHAM,
apr 22 Arcade Buildings, Rochester.

Early Red Eye Beans.

A LARGE supply of these superior Beans just received at the Rochester Seed Store.

These beans are very early and productive, and from the certainty and abundance of the crop, and the high price they bring in market, are doubtless the most profitable kind for planting.

A farmer in this vicinity realized 180 dollars for the product of 2 acres the last season.

REYNOLDS & BATEHAM,
apr 22 36 Arcade Buildings.

Agents for the Rochester Seed Store.

OUR distant friends and the public will find a large assortment of Garden, Field and Flower Seeds, which may be relied on as being fresh and genuine, put up and labeled at the Rochester Seed Store, for sale at the following places;

W. & G. Bryant, Buffalo
G. W. Merchant, Lockport
Williams & Dorrance, Batavia
Gates, Bradley & Co. Le Roy
J. F. Wyman, Geneseo
J. B. Dungan, Canandaigua
Bogarts & Wynkoop, Geneva
Holden & Vincent, Oswego

The above gentlemen are authorised to receive orders and payments for us, for seeds, trees, plants, or any other articles in our line. REYNOLDS & BATEHAM.

march 18

Fruit Trees For Sale.

THE subscriber respectfully informs his friends and the public that he has for sale at his Nursery in Rochester, Monroe county, state of New York, a large quantity of Fruit Trees, grafted and innoculated with the most approved kinds, now fit for transplanting, which he will sell on the most reasonable terms. SAMUEL MOULSON.

apr 15-tf

A Splendid Farm for Sale.

THAT well known farm formerly owned and occupied by James Graham deceased, situate on the shunpike road between Erie and Waterford, midway distant from either place. The farm contains 212 acres neat measure, 175 of which is cleared and under a high state of cultivation, on which is erected a large and convenient dwelling house, kitchen, wood-house, &c. Two large frame Barns, one of which is 90 feet long, and the other 45, a shed for the shelter of cattle, 80 feet long, togther with out-buildings suited for convenience and comfort.

There are also on the premises two large fruit Orchards, with about 250 fruit trees in each, scarce one failing to yield an abundant supply every year of excellent quality of fruit.

This farm is well watered and well adapted to grazing, with a sufficient quantity of arable land for the producing of grain.

More particular information respecting the premises, as well as the terms of sale, can be had by inquiring of Carson Graham, at the office of Riddell & Graham, in Erie, or of William Graham in Beaverdam, one mile from the premises.

WM. GRAHAM.
Erie, Pa. March 1, 1837. apr 13-f9t

KEDIE & HOUGHTON, Importers of English Field and Garden Seeds, beg to apprize the public that they have now for sale the largest importation of the choicest and best varieties of every kind of Garden and Field Seeds ever offered to the public in Western New-York, all of which have been selected from the most eminent growers in the Old Country, (and of the growth of 1836,) which, together with a large assortment of Seeds of American growth, they confidently submit to the public as being unequalled by any ever offered in any part of the United States, and by adhering to a strict determination of offering no other seeds but the vitality of which shall have been tested, they solicit a share of the public patronage.

K. & H. deem it necessary to state, that Mr. Kedie's intimate connection in England with most of the practical and scientific agriculturists, horticulturists and botanists, with whom he has passed all the former part of his life, gives him an advantage in his selection of seeds for the public good, not surpassed by any other establishment in the Union.

No 6 Buffalo-street, west corner store of the Eagle Block.

Catalogues to be had at the store.

The highest price paid in cash for Grass Seed.

Rochester, Feb. 7, 1837. feb 25

Morus Multicaulis.

JOSEPH DAVENPORT offers for sale 50,000 plants of the true Chinese Mulberry, or Morus multicaulis. Trees will be carefully packed and forwarded as early as desired. Orders must be sent to Colerain, Mass. till the 15th of March; after which time to Hartford, Ct. All inquiries will be attended to at his plantation, 5 miles south-west of the city. Early orders only will be supplied, as arrangements will be made use all not called for soon.

Colerain, Jan. 23, 1837.

COMMUNICATIONS.

Meteorological.

On Friday, May 5th, a severe hailstorm with high wind and violent thunder and lightning, passed over the southwest part of Onondaga county and across the northeast part of Cortland county, doing considerable damage in the breaking of windows, and the prostration of fences and trees, and in some few instances of buildings, in its whole course. The extent of the storm as far as I have heard was about 30 miles, and the width of the hail and wind about three or four miles: its course was nearly from northwest to southeast. The thermometer on the morning of the storm was about 65° and at 2 o'clock previous to the shower was 78°—the mercury fell about 10° during the few minutes the gale lasted. Within the space covered by the body of the storm, the hail fell in large quantities, and of the size of common bullets, most of them irregular or jagged, and driven with great force by the wind. In its greatest violence the wind moved in narrow lines, or veins, as was evident from crossing the course of the storm in any part of its course, from the limited lines of fence blown down, or trees overthrown; but in no part did it appear to assume to any extent the gyratory movement so common in hurricanes or tornadoes. It must be remarked however that where I noticed its passage was near the commencement of the storm with violence; no hail falling but a few miles to the N. W. and the storm there having the appearance only of a common thunder shower; so that it is not impossible but that its movements may have become more concentrated and rotary, at the more advanced points of its progress.

The motion of the electro-magnetic currents as connected with electricity, promise in their investigation, to greatly assist the student of nature in his inquiries into the various phenomena connected with storms of all kinds, particularly those which occur in the tropics as tornadoes, or with us in the summer as thunder showers, both appearing to depend for their existence on electrical developments. A first and most important step has been taken, in demonstrating that these aerial currents have a constant tendency to a rotary motion, or in other words are whirlwinds of various magnitudes and velocities. The invariable nature of this rotary movement, where it exists, being always from right to left, would seem to depend not on chance, but on some efficient and active cause which impels all fluids moving in free space to assume this position. The experiments of Oersted and Hare, prove that the electro-magnetic currents in all cases, where unobstructed, move in circles, and hence this electrical agency most satisfactorily solves some problems in physics that otherwise would be entirely inexplicable.

That the state of the air for some hours previous to severe thunder showers, or tornadoes, is subject to controlling electric causes, must be evident to all. Dr. Clarke remarks that the first indications of the approaching flood of the Nile, (and several days before any perceptible rise can be discovered,) are to be found in multitudes of little circling eddies in the almost stagnant water of the river; and in the still sultry hours that precede the thunder gust, little whirlpools of air are frequently seen moving over the fields, lifting dust, leaves, straw and other light substances into the air from the surface of the earth. These rotary movements are oftener observed in the spring than at other times, owing perhaps to the efforts necessary to restore the electrical balance of the air and earth, somewhat disturbed by the effects of winter. A similar effect is noticed in all tropical countries at the commencement of the rainy seasons; and a late description of the country on the Indus, the Taxila of Alexander, given in the Asiatic Journal, speaks emphatically of the little whirlwinds of dust and sand that precede the tremendous thunder and lightning that ushers in the rainy monsoon.

On the afternoon of the day preceding the hail storm of the fifth, I observed these rotary movements in the air, one or two of which were of considerable violence; and in their action afforded a fine but harmless illustration of the formation and motion of those terrible devastating agents, the tornadoes, that sweep over the West Indian islands and seas, and occasionally over different sections of our own country. After the whirling motion of these bodies of air has fairly commenced, nothing can be more clear than that the centre of the moving body has a rapid motion upward, and that the air from around the whole circumference rushes rapidly to this central and rising point, and this rush of air is always violent and extensive in exact proportion to the velocity of the gyratory column. An incident I witnessed a number of years since, well illustrates this tendency of the air to press to such a moving centre. It was a sultry day in the fore part of August—there was little air stirring, and a thunder shower was rising in the S. W. There was a good deal of lightning, but nothing to indicate a severe gust; when all at once a heavy roar was heard in the direction of the cloud, a few pattering drops of rain fell, and in an instant as it were, the whole horizon was obscured by dense masses of vapor rushing by with almost incredible velocity, nearly from north to south, or at right angles to the course of the thunder cloud. This rush lasted but a few minutes, the roaring noise passed off to the east, the wind became as before the shower, and the sun soon came out. The cause of this singular atmospheric movement was soon explained. A whirlwind of force sufficient to prostrate numbers of trees, and level most of the fences and corn in the fields over which it passed, had swept by about half a mile to the south of where I was, and it was evident the rush of wind and vapor was only the natural result of the rotary and ascending central movement. This point was not more than fifteen or twenty rods in width, and the manner in which the corn was leveled to the ground, clearly indicated the whirling nature of the power that produced that effect.

The nature of the cause that induces this rotary motion in all fluids under favorable circumstances, may not be perfectly understood, yet science has brought to light some facts which seem to have a bearing on the matter, and we may trust to further investigation and experiment for more important and satisfactory developments. It has been known for some time that a vessel of water of some considerable size, if drained by a hole in the centre of the bottom, would gradually communicate a circular motion to the water, forming a miniature whirlpool, and always in the same direction, or against the sun. The little summer whirlwinds already noticed move in the same manner, thus indicating the same exciting agency. The general winding of trees in the forest, and nearly all vines of every kind, show in their growth a disposition to conform to the same general law. Steam from a kettle, in a still atmosphere, as it rises assumes the same gyratory movement, and in the same manner as does the water or the whirlwind; in short the instances are so numerous where fluid substances obey this law, and the exceptions, if any, are so few, that we are authorised to suppose a common cause for the whole series of phenomena. A cause adequate to all this is found in Electro-magnetism.

That this subtle and pervading fluid, whatever it may be, moves in circles, seems to have been proved by the experiments of numerous philosophers; that every atom of matter is magnetized, or has a tendency to polarization, or arrangement in a particular manner, has been demonstrated by Brewster and others; at least this is the case so far as they have yet proceeded, and even light itself does not appear to be an exception to this general law of the universe. In this cause then we have an agent sufficient for the solution of most of the phenomena connected with Meteorology, and the general motion of fluids; since when this polarity of the atoms composing any body is destroyed there can be no rest till this is restored, and during this action there must be from the motion of the fluid itself a corresponding rotary movement of the atoms upon which it acts.

W. G.

Otisco, May 3, 1837.

On the 4th May, there arrived at Montreal from Upper Canada, 1038 barrels of flour, 688 barrels pork, 69 barrels beef, 4 barrels, 26 1-2 half barrels and 23 kegs lard, and 78 barrels ashes.

From Chaptal's Chemistry applied to Agriculture.

Improvement of the Soil.

A KNOWLEDGE OF ITS QUALITIES ESSENTIAL.

To improve the soil is to render it more suited to vegetation by ameliorating the nature of the earth. All then which tends to dispose a soil favorably towards plants, in connection with the action which is exercised upon them by air, water, temperature, manures, &c., may be justly termed improvement. Thus before undertaking to improve a soil, it is necessary to be acquainted with its qualities, and particularly with its defects, that we may apply to it the means of improvement it requires.

This preliminary knowledge of the defects of a soil implies a second, which is that of all the agents which can be employed in its improvement; the correction of known faults can only be performed by means of substances possessing opposite qualities.

As in the term improvement is implied all which can tend to ameliorate a soil, it necessarily has a very extensive signification; it comprehends operations purely mechanical, and the use of those earthy and nutritive mixtures, which are produced by art; it likewise comprises all the means which can be employed to direct advantageously the action of air, water, heat, &c. It is in all these relations, that it is necessary to consider the great art of improvement.

PULVERIZATION AND STIRRING NECESSARY.

The best earths produce but little, if they be not stirred by the spade, the hoe, or the plough. This operation divides and softens the earth, brings to the surface the manures of all kinds, which the rains had caused to sink below it; facilitates the spreading of the roots; it destroys weeds, and causes them to serve as manure; and it frees the soil from vermin, which would otherwise multiply in it to the destruction of the harvests.

This operation is performed upon all soils of what kind soever; it forms the very basis of agriculture; without it there can be no harvest. The tillage by the hoe is much more perfect than that by the plough, but the spade is a still more efficacious implement. The plough divides and turns the soil with less exactness than either of the others: and notwithstanding the crossed and multiplied furrows, there will be some portions of the intervals and intersections, where the soil will remain untouched: but as tillage by the plough is the least costly, and the most expeditious, it has generally received the preference.

I know a little village in Touraine, between the Cher and the Loire, where all the lands are cultivated by the spade, and their produce is always double that of any in the neighborhood; the inhabitants have become rich, and the soil has doubled in value. In Bremont, between Loches and Chinon, they employ no other means of cultivating a very fertile soil; but this method can be used only on small estates, or in a country where labor is very abundant, and to be procured at a low price; I do not doubt, however, that there are some localities where it could be conducted with profit, if it should be employed from time to time to ameliorate successive portions of land; especially those that have been used for the cultivation of such plants as have long roots.

In the alluvial soils formed by the deposites of the Loire, between Tours and Blois, the farmer reaps from his land a harvest of corn, and afterwards lets it to persons, who turn it to the depth of a foot, with spades, and raise upon it leguminous plants.

From the effects produced by this kind of tillage, we may perceive, that it cannot be employed equally in all soils, or indifferently at all seasons, nor be always carried to the same depth. A light, porous, calcareous, or sandy soil, requires less tilling than that which is compact and argillaceous; and this last requires to be stirred more deeply than the first, because otherwise, the roots cannot penetrate it and fasten themselves in it; neither can the air gain access to deposite upon them its kindly moisture.

Calcareous, sandy, and siliceous soils may be tilled at any time, whilst the argillaceous soils are in a fit state for the plough only at certain seasons, which must be eagerly seized upon by the farmer;

the action of the plough upon these lands immediately after rain, only leaves marks in the mud; and if they be allowed to remain till they are thoroughly dry, they become impenetrable by it; the interval between these two periods is the time most favorable for tilling.

UTILITY OF THE HARROW AND ROLLER.

The best tilling does not always prepare soils entirely for cultivation; some are not sufficiently divided or crumbled; others are not sufficiently levelled, and it is only by the assistance of the harrow, or the roller, that the labor of tillage can be completed. By dragging the harrow in all directions over a newly ploughed field, the clods left by the plough are turned over, the uprooted weeds are carried off, and a more equal division is given to all parts of the soil. The strength and weight of the harrow must be in proportion to the resistance offered by the nature of the soil. The harrow can be advantageously employed in opening the soil of artificial meadows, especially those of clover, when the surface has become a crust impenetrable by air or water; the operation of harrowing in this case, should be performed early in the spring of every other year, or immediately after having cut the first crop of fodder; by this means, many plants injurious to the soil are destroyed; and meadows are restored, which would have been constantly deteriorating. I have practiced harrowing fields of grain, early in the spring, with great success; and have found the harvests from them uniformly much finer, than from those that had not been harrowed; but it was necessary to pay attention to having the harrows very light, and made with wooden teeth.

The roller I have found to produce an excellent effect after the seed was covered; it unites and levels the surface of the ground, and is particularly useful for porous and light soils; and for those earths of which the constituent particles are fine and light. If such soils have not received a suitable degree of firmness from the roller, high winds and rains are apt to carry off the upper layer, and to leave bare the roots of the plants. Another advantage arising from the application of the roller is, that the soil which has been subjected to it, presents fewer obstacles to the use of the scythe, or of the *sickle*.

When frosts have bound up the soil, and it has again been set free by thaws, the roots are left almost without support, as the earth scarcely adheres to them: the roller, applied to lands as soon as they are firm enough to admit of its being passed over them, is very useful, as it reunites the earth to the roots, and repairs the injury done by the frosts and thaws.

ARGILLACEOUS, HOW IMPROVED.

A judgment of the mixture necessary for amending a soil, can be formed only from a perfect knowledge of its defects.

A soil in the composition of which the best earths are united, does not need to be improved by the addition of new earthy principles: good tillage and the application of manure are sufficient to render it fertile: but that soil in which any one of the earths predominates to such a degree, as to give a character to the whole mass, requires to be corrected by the admixture of substances possessing opposite qualities. I shall distinguish soils as argillaceous, calcareous, siliceous, and sandy; these divisions seem to comprise all those requiring to be amended; and the quality of the earth predominating in each indicates sufficiently the kind of improvement suitable to it.

An argillaceous or clayey soil is rendered pasty by rains, and it is hardened and cracked by heat; it absorbs moisture from the air only on its surface, but it imbibes abundantly the water of rains, and retains it by so strong an affinity, that when the supply is in excess, it remains till it stagnates and causes the roots of plants to decay.

An argillaceous soil is unfavorable to cultivation, for when it is acted upon by frost, the water contained in its interstices expands by freezing, and the thaw which sets the earth free, divides it into morsels with which the roots of plants have so little cohesion, that they may be drawn out from it almost without resistance: the roots are at such times in the state of newly planted vegetables; they have need of being established, of being fixed to, and united with the soil, in order to vegetate. If in this state a root be attacked by a new frost, it dies; for not being protected by the close adhesion of the soil, the cold acts upon it, as if it were exposed defenceless upon the surface: it is this which render alternate frosts and thaws more injurious to fields of grain, and to artificial meadows, than the severest cold which continues till spring. It is to obviate this evil resulting from a second freezing, that I propose levelling the earth by the roller after the first thaw.

From the New York Farmer.

Ploughing Match.

The ploughing match, for the purpose of testing the comparative merits of several ploughs, which were exhibited at the Fair of the American Institute last fall, was witnessed by a numerous assemblage of gentlemen, on the farm of General Johnson, near the Wallabout, Long Island, on Friday 28th of April. The arrangements of the committee for this trial were well made; the ground selected unsurpassed by any other field in the country, for such a purpose, having been cultivated by its present venerable, and highly respectable proprietor, and his immediate ancestors, for *more than two centuries*, and now in a high state of cultivation; the teams good, and the day as bright and fine as could be desired; and of course the exhibition was interesting, and highly gratifying to those who witnessed it.

There were five ploughs on the ground which were used, only four of them, however, came from the Institute; the fifth belonged to Mr. Wyckoff, and was tried with the others for his satisfaction.

The ploughs used were arranged in the field and tried as follows—viz:

1st. "Dutcher's Patent Cast-Iron Plough."

2d. Mr. Wyckoff's plough, also cast iron, "Steven's Patent."

3d. "Weaver's Patent Cast-Iron Plough," from Baltimore.

4th. "Dysdale's *Iron*," or rather as it is usually called, "Scotch Plough"—being *entirely* of iron; and

5th. "Minor and Horton's Cast-Iron Plough," from Peekskill, N. Y.

These ploughs were all held by the judges and many other gentlemen, both practical and unpracticed farmers; and most of them performed quite as well as could have been expected, considering their condition, which was by no means suitable for the objects of the trial. No plough, however good it may be when used sufficiently to become smooth and bright, can be properly appreciated and judged of from a first trial; and any plough-maker who risks the character of his work in that condition, with a view of testing its comparative merits with other ploughs, deserves, at least disappointment, if not defeat.

The gentlemen who acted as judges were every way competent to decide upon the relative merits of the ploughs. They tested them fairly, and decided justly, according to their performance; and no one interested in the decision, if disappointed, has, in our opinion, cause to complain of any thing except his own want of preparation.

The award of the judges, after mature consideration, was as follows:

"The undersigned committee, appointed by the American Institute, critically to examine the several Ploughs exhibited, and put in operation on the farm of General Jeremiah Johnson, at the Wallabout, report—

That on such examination they do unanimously agree, and decide that the yellow plough of Josiah Dutcher is the best, and that the plough of Minor and Horton is the second best, both as to their structure and operation. The committee would further state that the plough brought and tested by Mr. Wyckoff, although not in the province of the committee to decide upon, is deemed equal to the second best. Dated at the Wallabout, this 28th day of April, 1837.

LEFERT LEFERTS,
JOHN WYCKOFF,
GERRIT KOWENHOVEN,
NICHOLAS N. WYCKOFF,
JAMES CROPSEY,
JEREMIAH LOTT."

By this report it will be seen that number 1, took the first premium, and number 5, the second—number 2, being equal to number 5, but not entitled to compete for the premium, as it was not exhibited at the Fair of the Institute. Numbers 3 and 4, were not mentioned in the report,—number 1, or *Dutcher's* plough, was in good condition for work, had a good team, and performed admirably.

Number 5, or *Minor and Horton's* plough was not in good condition, being rough, and *without coulter*, except a sort of Rhinoceros horn, or cutter, extending up from the *share*, and its real merits were not generally appreciated. If it had been as well prepared for action as number 1, it would have stood an equal, if not the best, chance for the first premium.

Number 2, or Mr. Wyckoff's plough was in perfect order and by many persons deemed the best in the field.

Number 3, or "*Weaver's* plough," was by no means in proper condition for use. It was rough, and like number 5, with-*out* coulter, and *with* the *horn* projecting upwards from the share. The plough had an apparatus under the back end of the beam, where it comes in contact with the handle, for regulating the work. Mr. Weaver, the maker, was not present, and the only gentleman who had used it, and who properly understood the regulation of it, was obliged to leave the exhibition before it had had a perfect trial, and therefore its merits were not duly appreciated. We have however great confidence in this plough, and do not doubt but that it will be found, when properly tested, a valuable instrument. We have been informed by a gentleman who has given it a fair trial—having *three* of them in use on his own farm, that it is *superior* to any plough he ever held: and we can only again remark that when a person desires to test the merits of a *machine* or *invention*, he must, if he would succeed, have it in *order* for competition. A plough can no more easily make good work, in a *rough* state, than a horse can make good *time* when taken from the plough to the race course.

Number 4, the "Scotch, or Drysdale Plough," made entirely of *iron*, with handles projecting far behind, found little favor except with those who had been accustomed to its use. It made good work—yet not equal to the others, and was omitted in the report of the judges.

After a full and satisfactory trial, in which several acres were "turned up," and many more trodden down by the multitude present, the company adjourned.

Engrafting and Pruning.

As this is the season of engrafting and pruning orchards, would it not be well to put in a goodly number of sweet apple scions? Apples are coming more into use among us for the purposes of feeding swine, cattle and horses; and sweet apples have been found to be more useful in the family than sour ones. Notwithstanding this, there are probably ten sour apples raised to one that is sweet. As it regards pruning allow us to say, that a saw is a much more suitable tool for this purpose than an axe.—The axe breaks the limbs or splits them—separates the bark—allows the water to get in and causes decay—whereas the saw will take it off more gently, and by trimming the bark with your knife, it will heal over much more readily, and without so much danger of producing those rotten stumps which disfigure and injure so many orchards.—*Maine Farmer.*

From the New York Farmer.

Black Fly.

Sow a bushel of dry ashes to the acre on your turnip field, as well as all other vegetables of the same class, while the dew is on (or are moist) when they are two or three days old, and it will preserve them against the small black fly; should there come rain to wash it off immediately, repeat it, the ashes also is highly beneficial to promote the growth of the young plant. Oftentimes the black fly will take every vestige from the fields, and lead a person, who did not see his field during the first few days, to believe the field bad, and attribute the evil to that cause. Many farmers are well acquainted with the above facts, but they are not generally known—and this may be of service.

A NEW-ENGLAND FARMER.

Agricultural Schools.

We find in the N. Y. Farmer for May, the following report of the remarks of J. J. Viele, of Rensselaer county before the Agricultural Committee, which met in Albany last winter, and which we transfer to our columns with pleasure:

Mr. PRESIDENT:—In looking about me, I see assembled a numerous collection of gentlemen, from all parts of this great and wide extended State, comprising much talent, much moral worth, and, if I may judge from the distance they have travelled at this inclement season, I should say they possessed an eminent degree of disinterested patriotism and philanthropy. What, I ask, has called together this numerous convention of agriculturists? Is it to promote the objects and interest of party? Most assuredly not. Agriculture is of no party. It comprises the whole of all parties. Five-sixths of our whole population are engaged in its active pursuits; and the other one-sixth is as dependent upon it, as the branch is upon the roots for nutriment and support. Have they any sinister or personally ambitious views in coming up hither? I trust and verily believe not. The character of this convention, and the reputation of those who compose it, utterly refutes any such imputation—entirely disperses all suspicion.—And beside the cause itself, and proposed objects, is not susceptible of any such perversions. What then, Mr. President, has assembled this truly respectable convention? The question may be answered almost in a word. *It is to do the greatest good to the* GREATEST *number*. It is to devise the best plan to improve the agriculture of the State, and in so doing, ameliorate the condition and promote the happiness and prosperity of the whole human family. *Truly*, then, it is a laudable and philanthropic errand upon which we have come. Truly, it is a cause worthy the attention and consideration of all, from the humblest laborer that treads the "vine clad hill," to him who sways the sceptre of government, and directs the energies of a great and free people. It is a fact that will be conceded by all, that agriculture and the labors of those engaged in it, is the main source and foundation of individual and national wealth. That it is the basis and substratum of all other interests and avocations. On it, all depend—to it, all look for nutriment and support. That in proportion as this interest flourishes, does every other prosper, and when it languishes all others decline. Embracing, as it does, so great a proportion of the community, it gives an impress to the character of our country and all her institutions. The farmers of the State, decide by their numbers, our elections—they control indirectly the government. How important then that they should be educated, and fitted for the discharge of those duties with regard to their country, in which they are most deeply interested, that they are now obliged for the want of capacity in themselves, to confide to others.—How important that they should be qualified to direct and manage their own political concerns, rather than be nosed and led about as mere automatons at the beck of some professional demagogue. How important for the stability and well-being of our republican institutions, that the standard of education and knowledge should be elevated among so numerous and useful a body of citizens as the farmers of our land. They require knowledge in order to enable them to discharge their duties to themselves and families, in the successful cultivation of the earth. Knowledge is essential to enable them to make judicious selections of rulers and to qualify themselves for the discharge of the multifarious civil duties that necessarily devolve upon them.

With this view of the subject, the question naturally arises—how shall the evils of which we complain, be remedied? How shall so desirable an end be attained? I answer, firstly, by the establishment of schools, liberally endowed by the State; where the sons of Farmers can be educated in a manner suitable to their occupation.—It was wisely said by an ancient Grecian philosopher, that boys should be first taught that which they intend to practice when they become men. So the sons of farmers should be sent to a school where agriculture is taught as a science,—and where the advancement and perfection of that science is the primary object, and where a practical application of all the sciences shall be made to the useful purposes of life,—where the mind shall direct the hand, and where the beauties, the properties and the treasures of the earth shall be developed to the youthful mind; in such a manner, that it shall not forever thereafter be lost, but shall be carried with him into the world, into the field and diffusing its blessing upon all within the reach of its influence.

But shall I be told, and do I hear it urged as an objection to the establishment and endowment of such institutions, that we have already academies, and colleges endowed upon a liberal scale, where all that desire it may receive an education. I grant it —and to the honor of our State be it said.—But this fact, instead of being a reason against, is a strong and forcible argument in favor of, the proposed plan.

For I maintain that these institution, although useful in their sphere, do little or nothing to promote the great and noble object which we have in view. The favors and bounties of Government should be dispensed with an equal & impartial hand. And if I show that the literary institutions of the State, that have been endowed by appropriations from the public treasury, to which the farmers are the main contributors, are, from their nature and organization, calculated to benefit and build up a particular class in community; and that class not, perhaps, the most useful and productive, to the exclusion of the great body of the people; then, I think it will be conceded, that it is high time that the attentien of our Legislators and those entrusted with the administration of government, should be directed to the subject, to the end that the evil may be remedied, and equal and impartial justice be done. And in pursuance of this subject, I must remark, without wishing to disparage the literary institutions of the State, that their tendency is not to diffuse general science among the laboring and productive classes, but to build up a literary aristocracy in the country. They are peculiarly culculated to prepare young men for the learned professions. They make good lawyers and good physicians, and they elevate the clerical character; but it is very clear to my mind that they contribute very little towards improving the agriculture of our country; but on the contrary, their influence is to abstract all the young men of talent from the pursuits of agriculture and the mechanic arts; and merge it into the professions. They are filled mostly by the sons of the wealthy and most aristocratic part of community, among whom the honest yeoman and his profession is in bad repute, and the son of the farmer who, perchance, finds his way into them; soon ascertains that the occupation which has given him sustenance is derided, and viewed as menial and slavish, he consequent imbibes a disrelish, and, perhaps, a disgust for it; and he hies away to the office of some lawyer, or the shop of some apothecary, and there learns to get a livelihood out of the honest earnings of a less respected class in community. And if, perchance, he does not take to one of the professions; as a general rule, his habits of industry are destroyed, his taste is vitiated, and he spends the remainder of his life a useless drone, a burthen, and I had almost said, a nuisance in society. The conseqence and effect of this state of things, is, to protect and encourage the professions, to elevate them in the public eye; and on the other hand, to depress and discourage the business of agriculture and the mechanic arts generally.

With such effects, and under such discouragements, is it longer matter of surprise, that the first and best pursuit of man should be brought in disrepute and languish for want of the necessary stimulus and support. Is it longer to be wondered at, that the sons of farmers and mechanics should forsake the healthy, invigorating labors of the field and the workshop, for the law office, the banking house, and the counting room? It is a matter of notoriety, and a lamentable fact, that almost every other occupation is considered more honorable, or more genteel than that of the farmer. The consequence is, a general abandonment of its pursuits, by all the ambitious youth of the country. This is an evil of great magnitude, and the cause is to be found in the want, or the absence of that knowledge in the agricultural community, that alone elevates character, exalts the human species, and renders man truly respectable. An elegant writer has said, and it has ripened into axiom, that "knowledge is power,—knowledge is wealth,—it is the philosopher's stone—the true alchemy that turns all it touches into gold. It is the key that unlocks the store-house of nature and discovers the hidden treasures of earth." Without it man would not be distinguishable from the brute; and in proportion as he is possessed of it, in the same ratio is he elevated above that lower order of creation.

That science has already done much to improve and promote the condition of our agriculture, cannot be controverted. To her she is indebted for almost all the improvements that have been made in tillage and the rural arts. To her she owes the introduction of the improved cast iron plough—the roller—the cultivator—the threshing machine—the hay press, and the whole host of labor-saving machines, that have lessened the toil of the husbandman and increased the productions of the earth. Another triumph of science, we have also this day witnessed, in the recent invention, of the silk reel and spinner; which promises to be of immense value and utility, in this new and interesting branch of rural industry.

The benefits that will accrue from the establishment of public schools, where agriculture shall be taught as a science and an art, are incalculable. There can be applied the well settled principles of science, in the invention and introduction of improved farm implements. There, the nature and qualities of soils can be learned, with the best methods of renovating and improving them. There, the physiology of plants, and the nature and habits of the whole vegetable kingdom, can be made thoroughly understood. There, will philosophy, chemistry, botany, minerology and generology, unite in their contributions, to the advancement of man's highest interest. There, the principles of mechanics can be taught, and the inventive genius of our country illioited. There, can be learned the science of entimology, or the nature and habits of the various tribes of insects, that prey upon and often destry the farmer's hopes; with the best remedy or preventives for such depredations. In schools of this kind might also be taught the science of veterinary surgery, or the nature of the diseases of domestic animals, and the remedies. By a general diffusion of knowledge on this subject, thousand, yea tens and hundreds of thousands, might annually be saved to the community that is now lost through a miserble, beggarly system of quackery.

Much more might be said of the advantages to be derived from institutions of this kind, were it deemed necessary. That they are sources of much public good, fountains from which flow health, wealth, and all those attendant blessings which enrich a country and ennoble the human species, cannot be doubted by any that have examined and reflected upon their utility; or have witnessed or become conversant with their operation and effects in Europe. There they are no longer considered experiments. France has long had her schools for the promotion of agriculture and the mechanic arts. In Prussia, where perhaps as much or more is doing to promote the cause of science, at present, as in any other country, agricultural schools are founded and supported by the government. Germany, too, has her schools devoted to the improvement of the soil and the mind. And the advanced state of her agriculture and of science, within her borders, attest the wisdom of the policy, and is but an earnest of what might be done in this free country.

The school established by Fellenberg, in Switzerland, the result of the efforts of a single philanthropic and public spirited individual, challenges the admiration and the emulation of the world. His great aim was to "produce *men*, not mere *scholars*. The leading principles of his system is, to unite physical, moral, and intellectual education, and to form all the faculties into one harmonious system, corresponding with the capacities and destination of the individual."—Young men are sent to this school from all parts of Europe and even America. Its influence is more or less felt throughout the civilized globe. Connot the great State of New-York, empire as she is in wealth, population and extent, do as much to promote the diffusion of science, among the productive clases; as has one individual of Switzerland? Will she not awake to her interest and her honor, and do as much as has been done by the despotic governments of Europe? The character of our agricultural community will never be elevated much above what it now is, unless

schools are established, particularly adapted to that object. And how shall schools be established, except through the munificence of the State? It has ever been the policy of all wise governments to promote the sciences and encourage the arts. And shall agriculture, the greatest and most complicated of all the sciences, and the most useful of all the arts, be left to languish and decline, or even to remain stationary for want of the fostering care of government?

Another method by which our interests can be promoted, is through the agency of societies. That united and concentrated effort can do more towards accomplishing any general object, than the exertions of insulated individuals, does not admit of a doubt. We have evidence of it in the associations that are almost daily formed, to promote the great objects of humanity and benevolence. The awarding of premiums for any improvements that may be made in labor saving implements, or machinery, and also for the production of the greatest results in tillage with the least expense, would give an impulse, and excite a general spirit of rivalry and competition that could be productive of the most beneficial consequences. Does any one doubt the utility of these associations? Let him turn his attention to those counties in Europe where they have been established, and see the cold and barren earth made warm and fruitful, her productions quadrupled, and the moral and intellectual condition of the people correspondingly improved. Look at those districts in our own happy land, where attention has been paid to this subject, and societies of this kind kept organized, and compare them with those where it has been entirely neglected. The contrast is too striking, and the difference in the general appearance of the country—the wealth of its inhabitants, and the social condition of the people is too great to require one more word by way of illustration.

But here again a difficulty presents itself. Societies of this kind cannot be maintained without funds, and funds cannot be obtained without the aid of the State. The question then arises, will the State contribute to an object so nearly allied with its glory and prosperity? The present is a time auspicious for making such provision, for the advancement of this cardinal interest, as shall augment the wealth, promote the happiness, and redound to the honor and glory of this great State.

The State is about to receive from the U. States Treasury, nearly six millions, as her quota of the surplus revenue. Why not appropriate a part of the avails of this sum for the endowment of a State Agricultural School, and for the encouragement of Societies? The amount so appropriated, would soon be returned with compound interest into the Treasury, by the increased revenue that would be derived from Canal tolls and taxes, in consequence of the stimulus that would be given to agricultural industry. Soon would the productions of the State be quadrupled; and instead of the greatest agricultural country in the world, being importers of bread stuffs for our own consumption, we should be exporters, and to a large amount. It is a fact that speaks volumes in favor of an increased attention to this subject, and of the necessity or improvement that we, who but a few years since threatened to reduce Great Britain to a state of starvation, are now importing, not only immense quantities of her bread stuffs, but even hay, to supply a population scattered over an immense territory of the most fertile lands beneath the sun.

It is perfectly proper, that in accordance with the publicly expressed voice on this subject, that a part of this money should be appropriated to the improvement and promotion of common schools—those nurseries of virtue and intelligence. In no way, perhaps, could so general a benefit be derived from it, but Mr. President, I do most solemnly protest against our incorporate Academies and Colleges receiving these funds, to the entire exclusion of schools of Agriculture. This consideration appeals to our sense of justice and equity, with great force. It arouses our feelings of philanthropy and patriotism, and calls up the republican principle that government should be instituted for the good of the many and not the few. Why, I ask, should institutions already endowed, and whose benefits are enjoyed mainly by the aristocratic few, receive this boon, to the exclusion of that great body of the people, whose interest is identified with the successful cultivation of the soil?

Demonstrations too of public opinion have long and often been made on this subject. And we all profess to be governed more or less by public opinion, especially when acting in a public capacity. Convention after convention has been held in this hall—resolution after resolution has been passed by the people in the several counties of the State—petition after petition, without limitation as to the number of signatures, have been presented to successive Legislatures; and all asking for an oppropriation for this great cause.—Report after report has been made in favor of this subject, by committees of each house, and still for want of time, or understanding, or some other cause, it has not been brought to a successful result. And while on this subject, I cannot but notice with respectful acknowledgments, the situation of that public sentiment, in the enlightened view that was taken of this subject, in two successive messages by the present Executive of the State. In touching upon this topic, his language is so happy, and his deductions so clear, that I will take the liberty of presenting to the convention the following extracts:—In 1833, he says—"From the consideration of these important subjects, I pass to one of *greater* and more general interest, lying more directly within the reach of our legislative action, and demanding from us a particular attention. Agriculture was undoubtedly the primitive pursuit of man in a civilized state of society, and seems to be indicated to them by Heaven, as their best employment. Vigor of body and purity of mind are eminently enjoyed by the husbandman. Without meaning to disparage any class of men, or deny a due proportion of public virtue to all, history and experience warrants the assertion, that the cultivators of the soil have ever been among the first to cherish, and the last to abandon free institutions. It is not, however, for this reason that agriculture presents peculiar claims for your guardianship. It not only furnishes occupation to a much greater portion of our citizens than any other department of labor, but it supplies the materials for all others. It must be regarded as a matter of some surprise, that an employment in which so great a number of the human family are directly engaged to which all look for their daily bread, and upon which commerce, manufacture and the mechanic arts—indeed, all the various pursuits of mankind—so necessarily depend, should not have risen to a still higher consideration than it has yet attained, and received from those entrusted with the power of legislation, more liberal aids.

The numerous agricultural societies organized in the several counties in this State, in consequence of our legislation, flourished for a season, then languished, and are now generally dissolved. The interest of agriculture was, to a considerable extent, promoted by these Societies. The contributions from the public treasury, distributed principally in premiums, gave a sudden impulse to agricultural industry and induced many laudable efforts among farmers, not only to excel in their productions, but to introduce valuable improvements in husbandry; yet it has been questioned whether the benefits derived were of such an extensive and abiding character as might have been realized by a different application of the fund derived from the government. Agriculture is a science as well as an art; and both must be systematically cultivated and widely disseminated, before it would attain a high degree of improvement. The general intelligence and individual enterprise of those devoted to the pursuit, have carried the art as far perhaps, as could reasonsonably be expected without a better knowledge of the sciences connected with it. With a salubrious climate, and fertile soil; with extensive regions but partially brought under the power of cultivation; with rising manufactures and a flourishing commerce, demanding the surplus produce of husbandry; with a population full of enterprise, and distinguished for native skill and practical talents, we may reasonably expect great advantages from the cultivation and diffusion of the sciences connected with the art. The *subject appears to me in every respect worthy of your attention, and to merit a liberal encouragement.*"

In the Annual Message of 1834, we find the following language:—"The subjects connected with the business pursuits of our constituents, next claim our notice. Among these, Agriculture stands first in the order of nature, as well as in the rank of importance. It contributes so essentially to wealth, that the early writers on political economy regarded it as the only source of wealth. It furnishes the means of human subsistence, and supplies most of the materials for manufactures, and the chief articles of commerce. When the labor of the farmer is bountifully rewarded, all other kinds of industry partakes of its success; whatever therefore, is done by the government for the agricultural interest, redounds to the benefit of every other. There is no other occupation which is so diversified in its objects, and requires such various knowledge to conduct it skillfully, as that of agriculture. This knowledge results from experiments in all climates, soils and seasons, and is consequently to be derived from different countries. It receives large contributions from the mechanic arts, and from the science of Botany, Chemistry and Natural Philosophy. The patronage of the government can scarcely be directed to a more useful object, than furnishing the means of collecting information on this subject, and of spreading it among the agricultural population. A board composed of practical farmers and men of scientific attainments, would possess great facilities for concentrating this scattered information; and the best means of disseminating it among the people would be afforded by a public institution, under the direction of such a board, where agriculture should be taught as a science, and practically illustrated as an art. The general interest felt for this branch of industry, will recommend it to your favor; and its intimate connection with the permanent prosperity of the State, will make you desirous of contributing to its advancement."

Thus you see, Mr. President, that in accordance with an enlightened public sentiment, has the attention of our Legislature been recently called to this subject. Subsequent Messages have, in substance reiterated the above sentiments. It is to be hoped, then, that the Legislature will sustain the Governor, and respond to the manifestations of public sentiment, by adopting a wise and liberal policy with regard to this important interest of the community.

One more view on this subject, Mr. President, and I close. We come not before the constituted authorities of the State as pitiful beggars at the foot of a throne, nor are we yet reduced to quite that state of vassalage and degradation, as are the boors and feudal serfs of the more despotic governments of Europe; but we appear as the Lords and Sovereigns of the land, asking in most respectful terms, "nothing but what is strictly right, unwilling to submit to any thing that is wrong." We are the source of all political power; Executive, Legislative, and Judicial. We constitute the great body of the people—the sovereignty of the land. We bear the burthens of the government in peace, we are its shield and defence in war. It is to be hoped, then, that an interest thus important, will receive that attention and fostering care, from the constituted guardians of our rights, that the prosperity of the whole community so imperatively demands. Let the empire State; justly proud of her march in internal improvements, and her splendid monuments of art, also lead the way, and set an example worthy the emulation of her sister States, in the encouragement and advancement of agriculture---the only true source of wealth---and soon will the entire face of the country be changed. Our fertile valleys will double their increase, our barren plains become productive, our swamps and marshes be reclaimed, the "desert and solitary place be made glad, and the wilderness blossom as the rose."

From the New York Farmer.

Transactions of the Essex Agricultural Society, Mass.

The annual account of the "Transactions of the Essex Agricultural Society in Massachusetts," has just been published. It is a valuable document; and does honor to this society, which stands unsurpassed in the country for its spirited exertions in the cause of our improved husbandry; and for the zeal, ability, and intelligence with which its operations have been conducted.

British Agriculture.

The following sketch is the 57th No. of Dr. Humphrey's Tour in Europe, now publishing in the New-York Observer.

I have spoken already, in general terms, with a little of that enthusiasm, perhaps, which first impressions are apt to beget, of the moral beauties and high cultivation of England, and parts of Scotland.

A glance, in July or August, from a few of the thousand eminences which invite your steps, is sufficient to convince you, that the prodigious agricultural resources of the country are developed, with extraordinary industry, skill and success. But these enchanting glimpses, are too rapid and indefinite, to afford any satisfactory data, from which to calculate the gross produce of the Island. You want to sit down in your closet, with such statistics, as may be gleaned from the reports of Parliamentary committees and other authentic documents, and by the help of these, to make out a condensed abstract, embracing all the items, which go to swell the vast aggregate of British agricultural production. For brevity's sake, I shall include what I have to say of the agriculture of Scotland, under the present general head, although most of the estimates will have more special reference to England and Wales.

It is the opinion of competent judges, that the advances made in the agriculture of Great Britain during the last *seventy or eighty* years, are scarcely exceeded by the improvement and extension of its manufactures, within the same period; and that to these advances, no other old settled country furnishes any parellel. That they have been very rapid, indeed, the following figures and comparisons abundantly show. In 1760 the total growth of all kinds of grain in England and Wales, was about 120,000,000 of bushels. To this should be added, perhaps 30,000,000, for Scotland—making a grand total of 170,000,000. In 1835, the quantity in both kingdoms, could not have been less than 340,000,000, of bushels. In 1755, the population of the whole island, did not much, if any, exceed 7,500,000. In 1831 it had risen to 16,525,180, being an increase of 9,000,000, or 120 per cent! Now the improvements in agriculture, have more than kept pace with this prodigious increase of demand for its various productions; for it is agreed on all hands, that the 16,500,000, or rather the 17,500,000, (for more than a million have been added since 1831,) are much fuller fed, and on provisions of a far better quality, than the 7,500,000 were, in 1755. Nor is Great Britain indebted at all, at present to foreign markets for her supplies. Since 1832, she has imported no grain, worth mentioning and till within the last six months, prices have been so exceedingly depressed, as to call forth loud complaints from the whole agricultural interest of the country. England is at this moment, so far from wanting any of our bread-stuffs, if we had them to export, that she has been supplying us all winter liberally from her own granaries, and according to the latest advices, she has still bread enough and to spare. Again, it is estimated by British writers, of high authority, that the subsistence of 9,000,000 of people costs, in raw produce, not less than £72,000,000, or £8 for each individual per annum. According to this estimate, the annual product of this great branch of national industry is $350,000,000 more, at present, than it was in 1755; which is more than twice the value of the whole cotton manufacture of the country, in 1831. Now if it costs $350,000,000 to feed the increased population of 9,000,000, then to feed the present population of 17,500,000, must cost near $700,000,000! What an amazing agricultural product, for so small a territory! And yet, it is the opinion of practical men of the highest respectability in England, that the raw produce of the island, might be well nigh doubled, without any greater proportional expense being incurred in its production. That is to say, 35,000,000 of people might draw their subsistence, from that one little speck in the ocean! Now *we* have a territory, more than fifteen times as large as the Island of Great Britain; and what should hinder it, when it comes to be brought under no higher cultivation than some parts of England and Scotland, from sustaining a population of *five*, or *six* hundred millions of people? This would give to Virginia something like *thirty* millions —to Illinois and Missouri about the same number, each—to N. York near *twenty-five* millions, and so in proportion to the other states. I am quite aware, that this estimate will be regarded as extremely visionary aud incredible, by many of your readers; but not more so, than it would have been thought, in the middle of the last century, that England, Scotland and Wales could ever be made to sustain thirty-five, or even thirty millions.

Among the causes which have more than doubled the agricultural produce of Great Britain, within the period just alluded to, may be mentioned the enclosing six or seven million of acres of commons and common fields, by which their annual product has been increased, in many cases, more than tenfold—the cultivation of heaths and other waste land—the redeeming of extensive and inexhaustibly rich fens, from the possession of aquatic birds and animals—the great improvement in agricultural implements —the furrow draining of clay and other cold and stiff soils—the better rotation of crops—the extensive introduction of turneps and clover—the immense increase of common manure, and the introduction of one at least, whose extraordinary nutritive qualities have but recently been discovered. Next to wheat, the turnep crop, which forty years ago was hardly worth mentioning, is now more valuable than any other, both to landlords and tenants. It is used chiefly in feeding and fattening cattle and sheep; and while immense numbers of both are kept in the most healthy and thriving condition upon this vegetable, one species of which, the Ruta Baga, has lately been introduced and is extensively productive, the lands are greatly enriched and soon prepared for any other crop, which the former may find most profitable in his system of rotation. Clover, too, is doing much to enrich the soil of England and Scotland, and to reward the labors of those who moisten it, with the sweat of their brows. It is surprising to see, to what an extent the light, sandy lands of England have already been redeemed from comparative sterility under this cultivation, and are now sowed with the finest wheat. The process is still going on, and bids fair to proceed as long as there remain any such lands to be reclaimed and enriched. Indeed, who can tell how much the cultivation of the turnep may ultimately add to the wealth, and help to sustain the population of Britain. According to an estimate which I have lately seen, it is now worth *many millions* sterling, per annum, to the single county of Norfolk. *Carrots*, also, are found to be a very profitable crop in some parts of England, and the farmers are turning their attention to the cultivation of this very nutritious esculent, with increasing interest and advantage.

Among the several kinds of manure which have long been in high repute, lime and marl are inexhaustible; particularly the former, which the low price of coal brings at a cheap rate. On some soils, and near the kilns, it is used in great quantities. I have seen fields covered with it just as ours are with barn manure; and when it is spread, the ground appears at a little distance, as if it were covered with snow.

But the richest and most profitable kind of dressing which has yet been tried, and which is a new source of agricultural wealth to Great Britain, is *bone manure*. It began first to be used, on a large scale, in Yorkshire and Lincolnshire, where its influence has been all but miraculous! Extensive tracts of country, which a few years ago were mere wastes, occupied by rabbit warrens, have been converted into some of the finest and best managed farms in England. This signal improvement, though it did not begin, has been carried to its present perfection, by the use of the manure just mentioned. Since bone dust has come into general use, the turnep crop has been increased in many instances, *ten*-fold, and in few less than *four* or *five* fold, and the effect has been equally surprising upon the succeeding crops of grain, on the same land. This is the testimony of practical men, well acquainted with all the circumstances, and they have no doubt that the soil will go on progressively improving, and requiring a less quantity of bones, annually, from its increased fertility and power. It answers best on light chalky soils. A single farmer in Lincolnshire, is said to have generally about 600 acres dressed, almost entirely with bone manure, furnishing a vast supply of food for cattle, and of common manure for other lands, and is fitting those on which it is sown for bearing the most luxuriant crops of wheat and barley.

In Scotland, the use of bone manure is still more recent, but scarcely less productive. In the Lothians, in Berwickshire, and in fact, every where, it is working wonders. Being so light and easily transported, compared with any other kind of manure, many a rugged and hilly tract is fertilized by it, which must otherwise have remained in a state of nature. To pulverize the bones, mills are constructed in the vicinity of all the large towns, and besides what their own markets furnish, large quantities of bone dust are imported by the Scotch farmers.

I am almost ashamed to offer your readers this brief and meagre sketch of the present state of British agriculture; but neither time nor space, will permit me to enlarge. There are limits no doubt, beyond which improvements in cultivating the soil, cannot be carried. But there is no reason to think, that these limits have yet been approached, even in the most productive districts of England and Scotland—for the science of agriculture never advanced more rapidly than it has done within the last few years; or rather, I should say, were I entitled to speak with any authority on the subject, it seems to be almost in its infancy. Who that looks at the astonishing improvements of the last fifty years, both in the science and the art of husbandry —who that recollects how lately the potatoe, that most rich nutritious and productive of all our farinacious esculents, has been brought into general use, who that considers what inexhaustible sources of nutrition and fertility and wealth, the turnep and other green crops have so recently become in Britain, will undertake to say, that other vegetables, still more nutritious and productive, may not yet be introduced and brought under general cultivation? Who can tell, what new substances scientific and practical agriculturists may yet find, possessing far higher fertilizing virtues, than any now in use, or what combinations and mixtures chemistry may furnish, so cheap and so abundant, as to put a new aspect of fertility upon lands already most productive? Who, in looking at the best acre in all England, would venture to say, that it can never, by any possible improvements and discoveries, be made more productive of human sustenance than it now is? Who knows, but that a hundred, or a thousand years hence, it may yield four fold? Who, in short, can even conjecture, what amazing undeveloped agricultural resources yet lie hidden in lands, which have hitherto been regarded as scarcely worth tilling at all? For myself, I do not deem it all extravagant to predict, that in the millennium, if not before, the single island of Great Britain will produce food enough for a population of *fifty* millions; nor, that when swords shall be beaten into ploughshares, and spears into pruning hooks, and instead of the thorn shall come up the fir-tree, and instead of the briar shall come up the myrrh-tree, the present territory of the United States will pour the boon of plenty, into the laps of a *thousand million of inhabitants!*

Yours, sincerely.

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